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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,766	06/20/2002	Martinas Kuslys	112843-043	2286
29157 7590 09/26/2007 BELL, BOYD & LLOYD LLP P.O. Box 1135 CHICAGO, IL 60690			EXAMINER HINES, JANA A	
			ART UNIT 1645	PAPER NUMBER
			NOTIFICATION DATE 09/26/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATENTS@BELLBOYD.COM

<b>Office Action Summary</b>	Application No. 10/088,766	Applicant(s) KUSLYS ET AL.	
	Examiner Ja-Na Hines	Art Unit 1645	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4, 6-10, and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Amendment Entry***

1. The amendment filed July 19, 2007 has been entered. Claims 1, 10, 13-14, and 20 have been amended. Claims 2, 5, and 11-12 have been cancelled. Claims 1, 3, 4, 6-10 and 13-20 are under consideration in this office action.

### ***Withdrawal of Rejections***

2. The rejection of claims 1, 3, 4, 6-10 and 13, and 15-20 under 35 U.S.C. 112, second paragraph has been withdrawn in view of applicants' amendments.

### ***Response to Arguments***

3. Applicant's arguments filed July 19, 2007 have been fully considered but they are not persuasive.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 is drawn to the formula of claim 13 comprising from 9.0 to 10% of total protein, however it is unclear what total amount of protein in claim 13 is being referred to. Therefore clarification is required to overcome the rejection.

***Response to Arguments***

5. The rejection of claim 14 is rejected under 35 U.S.C. 112, second paragraph, is maintained. Applicants assert that the amendment of claim 14 makes the claim clear. However the claim is still unclear. For instance, it is unclear if the claims means, the protein called "total milk protein" or the total of the whey protein plus the casein protein and milk protein or if the claim is referring to the individual total of the whey protein, the casein protein or the milk protein. Therefore the rejection is maintained.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 6-7, 10, 13, 16-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonekubo et al., (JP-002158742) in view of Georgi et al., WO 95/17102. WO 95/17102 provides priority to US Patent 5,916, 621; however US Patent 5,916,621 will reference the English language version of WO 95/17102.

Claim 1 is drawn to a composition for an infant formula comprising: whey protein, wherein the whey protein is hydrolysed sweet whey protein from which caseino-glyco-macropeptide has been removed; casein protein; free arginine; free histidine; and a milk protein comprising 5% or more of tryptophan. Claim 10 is drawn to method of producing an infant formula, the method comprising the-step-of blending whey protein, wherein the

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whey protein is hydrolysed sweet whey protein from which caseino-glyco-macropptide has been removed, and casein protein together with free arginine; free histidine; and a milk protein comprising 5% or more of tryptophan, and homogenizing the blended mixture. Claim 20 is drawn to a method of providing nutrition to an infant, the method comprising administering to the infant a composition comprising whey protein, wherein the whey protein is hydrolysed sweet whey protein from which caseino-glyco-macropptide has been removed; casein protein; free arginine; free histidine; and a milk protein comprising 5% or more tryptophan.

Yonekubo et al., teach highly digestible nutritive compositions for infant use (page 2). Yonekubo et al., teach the nutritive composition comprises natural milk proteins, amino acids as the protein source and nutrients such as lipids (fats) and carbohydrates (page 2, lines 8-11). Yonekubo et al., teach casein, a tryptophan rich milk protein is at 24-32% by weight which has at level of 5% or more of tryptophan (page 2, lines 32-33). Yonekubo et al., teach the whey protein is at 30-40% by weight while the casein protein is at 24-32% by weight (page 2). Yonekubo et al., teach the whey powder obtained from the milk serum portion that is left after casein has been removed (page 3, lines 20-21). Therefore casein is removed from the whey to produce sweet whey. Yonekubo et al., teach the whey powder is further treated and lactose is eliminated from it, thereby resulting in a product useable in a nutritive infant composition (page 3, lines 21-22). Yonekubo et al., teach the composition uses highly desirable natural proteins and adds essential amino acids to fortify the proteins, thereby reducing the overall protein content (page 3, lines 2-7). Yonekubo et al., teach the amino acids

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used in the compositions are free amino acids (page 3, lines 24-25). The composition comprises histidine at 1.4 to 2.0% by weight and has tryptophan is at 0.5-0.7% by weight (page 3). It is noted that Yonekubo et al., teach different concentrations for the arginine and tryptophan, however limitations such as different concentrations are viewed as limitations not imparting patentability. There is no evidence that these limitations provide unexpected results. The composition reduces the levels of protein ingested, provides natural proteins that are beneficial in terms of digestive absorption, succeeds in reducing total protein levels while providing supplementary essential amino acids (page 3, lines 2-5).

Yonekubo et al., teach a method of making the infant formulas, see Working Example 1. Yonekubo et al., teach the nutritive composition can be easily digested and utilized by babies and infants (page 2, lines 5-7). Yonekubo et al., teach in order to provide optimal emulsification and homogenization, the addition of surface active agents is necessary (page 3, lines 38-40). Yonekubo et al., teach the components are homogeneously mixed and formulated into a powder thereby yielding an infant use nutritive composition (page 4, lines 18-22). Yonekubo et al., teach the composition is administered by dissolution in water and then administering it to an infant (page 5, lines 3-5). However Yonekubo et al., do not teach the use of hydrolysed sweet whey protein from which caseino-glyco-macropeptide has been removed.

Georgi et al, teach that it is important to use whey powder/proteins that do not contain glycomacropeptide (GMP) because GMP causes the very high threonine content (col. 1-2, lines 65-2). It is noted that high threonine levels in infants causes

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hyperthreoninemia. Georgi et al., teach the production of milk baby foods, which have whey protein as the dominant product in such foods (col.1, lines 18-21). Georgi et al, teach milk baby foods have the disadvantage of having a high threonine content that causes high levels of threonine in the plasma of infants (col. 1, lines 20-25). Georgi et al., found that threonine content in whey powders are higher due to the addition of whey proteins (col.1, lines 37-41). Therefore Georgi et al., teach the need for whey protein dominant milk baby food or formula with a reduced threonine content (col.1, lines 42-45). Georgi et al, teach whey powder or whey proteins used in the production of milk baby foods are obtained exclusively from sweet whey which is produced by the precipitation and removal of caseins (col. 1, lines 51-55). Georgi et al, teach GMP must be completely removed by suitable processes; and removal processes are commercially well known (col.2, lines 5-14). Georgi et al, teach the sweet whey after the removal GMP is further hydrolysed with enzymes according to known processes (col. 2, lines 50-52). Therefore Georgi et al, teach the use of hydrolysed sweet whey protein from which caseino-glyco-macropptide has been removed.

Therefore it would have been prima facie obvious at the time of applicants' invention to modify the sweet whey composition for an infant formula, along with the method of production and method of providing an infant formula as taught by Yonekubo et al., wherein the modification incorporates the use of hydrolysed sweet whey protein from which casein-glyco-macropptide has been removed as taught by Georgi et al. One of ordinary skill in the art would be motivated to modify the compositions and methods as taught by Yonekubo et al., because Georgi et al., teach that providing

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formula without high threonine levels is advantageous to infants and that by removing the GMP from whey, one of ordinary skill in the art can provide formula with significantly reduced the threonine levels which is beneficial to infants. No more than routine would have been required to modify the composition and method of Yonekubo et al., by incorporating the hydrolysed sweet whey when Yonekubo et al., and Georgi et al., teach that the removal of casein-glyco-macropeptide and the hydrolysis of sweet whey are performed by used well known processes and desirable in infant formulations.

Moreover, one of ordinary skill in the art would have a reasonable expectation of success since well known commercially available methods were used to formulate the infant formulas and method of production and administration which had been routinely observed in the prior art to provide baby formulas with reduced threonine content by adding GMP free whey proteins which are dominant in baby milk foods. Furthermore, the limitations drawn to the different concentrations for the arginine and tryptophan are viewed as merely optimizing the experimental parameters and not imparting patentability; thus no more than routine skill would have been required to change the concentration in the well known compositions and method of production as taught by Yonekubo et al., in view of Georgi et al.

### ***Response to Arguments***

7. Applicant's arguments have been fully considered but they are not persuasive. The rejection of claims 1, 4, 6-7, 10, 13, 16-17, and 20 under 35 U.S.C. 103(a) as being unpatentable over Yonekubo et al., (JP-002158742) in view of Georgi et al., WO

95/17102. WO 95/17102 provides priority to US Patent 5,916, 621; however US Patent 5,916,621 will reference the English language version of WO 95/17102 is maintained.

Applicants argue that the references fail to disclose or suggest every element of the claims, in that the references do not the a milk protein comprising 5% or more of tryptophan. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, contrary to applicants arguments, it would have been prima facie obvious at the time of applicants' invention to modify the sweet whey composition for an infant formula, along with the method of production and method of providing an infant formula as taught by Yonekubo et al., wherein the modification merely incorporates the use of hydrolysed sweet whey protein from which casein-glyco-macropeptide has been removed as taught by Georgi et al., in order to advantageously remove the GMP from whey and provide formula without high threonine levels to infants. Moreover, no more than routine would have been required to modify the composition and method of Yonekubo et al., by incorporating the hydrolysed sweet whey when Yonekubo et al., and Georgi et al., teach that the removal of casein-glyco-macropeptide and the hydrolysis of sweet whey are performed by used well known processes and desirable in infant formulations.

Applicants argue that the references do not teach a milk protein having 5% or more of tryptophan. Instead, applicants urge that Yonekubo teaches adding L-tryptophan as a separate or free ingredient in the composition. Each time Yonekubo discloses using tryptophan, the ingredient appears as a separate addition to the composition, not as a sub-component of another ingredient. Applicants also argue that sodium caseinate includes tryptophan, yet sodium caseinate is not a tryptophan-rich milk protein. However, contrary to applicants statements, Yonekubo et al., clearly teaches the inclusion of a milk protein comprising 5% or more of tryptophan. Yonekubo et al., teach compositions comprising natural milk proteins, whey powder, amino acids, nutrients and carbohydrates. Yonekubo et al., teach whey powder in terms of milk protein serum protein. It is well known that the major serum whey proteins are beta-lactoglobulin and alpha-lactoalbumin which is a whey protein with a high tryptophan content. Therefore Yonekubo et al., teach a milk protein having 5% or more of tryptophan.

### ***Conclusion***

8. No claims allowed.
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ja-Na Hines whose telephone number is 571-272-0859. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Jeffery Siew, can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ja-Na Hines   
September 19, 2007

  
MARK NAVARRO  
PRIMARY EXAMINER